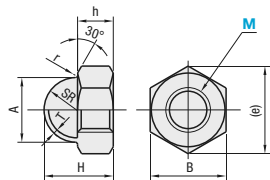


Nuts

Domed (Acorn) Nuts



Type	Material	Surface Treatment
FNT	EN 1.4301 Equiv.	-



Hex nut section and the dome section are welded together.

JIS B 1183 (Type 3)

RoHS

Part Number	H	h	B	A(min.)	T(min.)	e (Approx.)	r (Approx.)	Unit Price	Volume Discount Rate
Type M (Coarse)								1 ~ 5 pc(s)	6 ~ 9 pc(s)
3	5.0	2.4	5.5	4.6	0.3	6.1	0.5		
4	6.2	3.2	7	5.6		8.1			
5	7.5	4	8	6.6	0.6	9.2			
6	9.5	5	10	8.5		11.5	0.5		
8	12.5	6.5	13	11.5	0.8	15			
10	15.5	8	17	14.5	1.0	19.6			
12	18.5	10	19	16.5	1.2	21.9			
16	24	13	24	21.5		27.7	1.0		
20	29	16	30	26.5	1.6	34.6			
24	35.5	19	36	32.5	2.0	41.6			

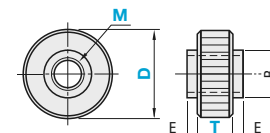


Part Number
FNT20

With Knurled Heads



Type	Material	Surface Treatment
FRNT	EN 1.1191 Equiv.	Black Oxide
FRNTS	EN 1.4301 Equiv.	-



RoHS

Part Number	D	T	E	B	FRNT	FRNTS
Type M (Coarse)					Unit Price	Unit Price
3	12	3	5	0.5	6	
4	16	4	6	0.5	8	
5	20	5	8	0.5	10	
6	24	6	8	1	12	
8	30	8	10	1	16	
10	36	10	12	1	20	



Part Number - D - T
FRNT8 - 30 - 10

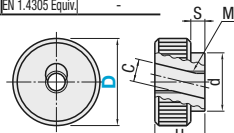
For orders larger than indicated quantity, please check with WOS.

Quick-Lock Nuts

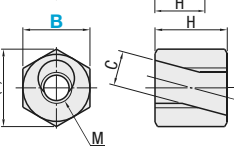


Type	Material	Surface Treatment
QCN	EN 1.0715 Equiv.	Black Oxide
QCNS	EN 1.4305 Equiv.	-
QHN	EN 1.1191 Equiv.	Black Oxide
QHNS	EN 1.4305 Equiv.	-

Round Type
QCN
QCNS



Hex Type
QHN
QHNS



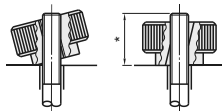
RoHS

Part Number	D	M (Coarse)	H	S	d	C	Reference Tightening Torque N(kgf)/m	Unit Price
Type								QCN QCNS
24	6	14	4	16	6.7	4.8(0.5)		
30	8	17	5	20	8.7	9.0(0.9)		
36	10	20	6	28	11.0	17.5(1.8)		
40	12	24	8	32	13.7	17.5(1.8)		

Part Number	B	M (Coarse)	H	C	(e)	Reference Tightening Torque N(kgf)/m	Unit Price
Type							QHN QHNS
17	6	14	6.7	19.6	4.9(0.5)		
19	8	17	8.7	21.9	9.8(1.0)		
24	10	20	11.0	27.7	15.8(1.6)		
27	12	24	13.7	31.2	19.6(2.0)		

Features and Precautions for Use

- Long threaded screws can be tightened quickly.
- Use at the reference tightening torque or less to avoid over tightening.
- Move the nut to the tightening position after inserting a screw into the straight hole. Then rotate the knob perpendicular to the screw and tighten it.
- Tightening strength is not adequate if the thread length of a screw (*) is shorter than the nut's H dimension. Design the thread length of a screw (*) to be larger than the H dimension.

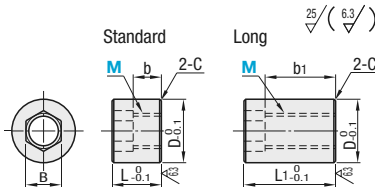


Part Number
QCN30
QHNS19

Cylindrical Nuts with Hex Socket



Type	Material	Hardness	Surface Treatment
Standard	Long		
RNSB	RNLB	EN 1.1191 Equiv.	35-40HRC
RNSM	RNLM		Black Oxide
			Electroless Nickel Plating



*Since D dimensions are made to correspond to the head diameter of hex socket head cap screws, counterbore tools can be used for recess holes. (For one size larger diameters, for example M4 → M5.08.5)

RoHS

Part Number	D	L	L1	B	b	b1	C	Unit Price
Type M (Coarse)								RNSB, RNSM
4	8.5	5	10	4	3	8	0.3	
5	10	7	13	5	4	10		
6	13	9	16	6	5	12		
8	16	12	22	8	6.5	16.5	0.5	
10	18	14	26	10	8	20		

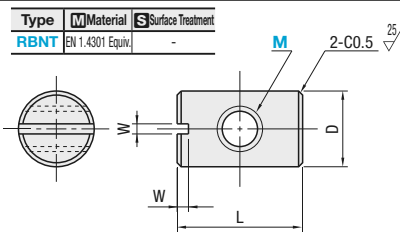


Part Number
RNSB6

Cylindrical Nuts



RoHS



Part Number	M	D	L	W	Unit Price
Type					
3	6	8	1		
4	8	10			
5	10	11			
6	12	12	1.5		
8	14	16			
10	18	20	2		
12	20	24	2.5		

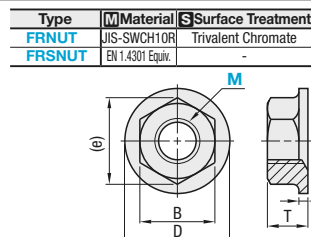


Part Number
RBNT10

Flanged Nuts



RoHS



Not serrated

Part Number	D	B	(e)	T	T1 (Min.)	FRNUT	FRSNUT
Type M (Coarse)						Unit Price	Unit Price
3	0.5	8	5.5	6.3	3.7	1	
4	0.7	10	7	8	4.5	1.1	
5	0.8	12	8	9.2	5.5	1.1	
6	1	13	10	11.5	6	1.5	
8	1.25	17	12	13.8	7.5	1.5	
10	1.5	19	14	16.2	9	1.8	



Part Number
FRNUTS

Knurled Thumb Nuts with Side Holes

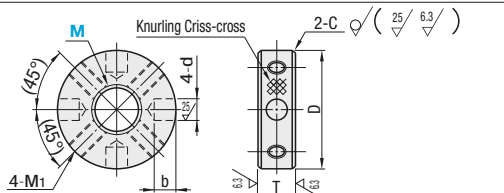


RoHS

Type	Material	Surface Treatment
Coarse	EN 1.1191 Equiv.	Black Oxide
Fine	EN 1.4301 Equiv.	-
CRNT	CRNTS	
SCRNT	SCRNTS	

Features

- The nuts can be tightened with hex key wrenches using the holes, made to fit the wrenches, on the side.
- The tapped holes can be used for retaining set screws.
- Use in spaces where standard hex wrenches cannot reach.



Part Number	MxPitch	MxPitch	D	T	d	b	Applicable Hex Key Wrench Size	M1	C	Unit Price
Type M	Coarse	Fine								CRNT CRNTS SCRNT SCRNTS
10	10x1.5	10x1.0	25	8	4.6	5	4	4	0.5	
12	12x1.75	12x1.0	30	10	5.8	6	5	5		
16	16x2	16x1.5	38	12	6.9	7	6			
20	20x2.5	-	45	16	9.2	8		6		
24	24x3	-	50	18		9		8		
30	30x3.5	-	60	20	11.5	10	10			



Part Number
CRNT10

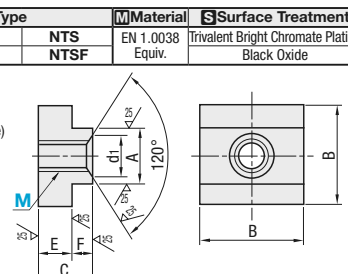
T-Nuts



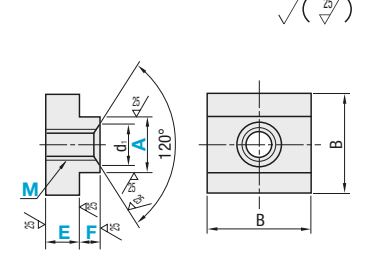
RoHS

Type	Material	Surface Treatment
Standard Type	NTS	EN 1.0038 Equiv.
Configurable	NTSF	Trivalent Bright Chromate Plating
		Black Oxide

NTS (Standard Type)



NTSF (Configurable)



Standard Type

Part Number	A	B	C	E	F	d1	Unit Price	Volume Discount Rate
Type M (Coarse)							1 ~ 49 pc(s)	50 ~ 500 pcs.
3	3.9	7	5	3	2.0	3.5		
4	4.8	8	6.5	4	2.5	4.5		
5	5.8	10	8	5	3	5.5		
6	7.7	13	9.5	6	3.5	7		
8	9.7	13	10.5	6	4.5	9		
10	11.7	16	12.5	7	5.5	11		
12	17.6	25	18.5	10	8.5	14		
16	21.6	32	24.5	14	10.5	18		
20	24.6	35	30.5	20	10.5	22		



Part Number - A - E - F
NTS8
NTSF12 - A9.5 - E5.2 - F4.8

Configurable

Part Number	A	E	F	B	d1	Unit Price	Volume Discount Rate
Type M (Coarse)						1 ~ 9 pc(s)	10 ~ 50 pcs.
3				7	3.5		
4				8	4.5		
5				10	5.5		
6	3.9-17.6	3-10	2-8.5	13	7		
8				13	9		
10				16	11		
12				25	14		

A < B

Tapered Washers / Tapered Nuts / Square Nuts / Square Washers

Tapered Washers

Type	M Material	S Surface Treatment
ZTQ	EN 1.0038 Equiv.	Trivalent Bright Chromate Plating
ZTQM	EN 1.1191 Equiv.	Trivalent Chromate

RoHS

Diagram showing dimensions for ZTQ (Square Type) and ZTQM (Round Type). ZTQ dimensions include Angle, d, D, t1, t2, and t3. ZTQM dimensions include d, D, and t3.

Part Number	Type	Angle	d	D	ZTQ				ZTQM				Unit Price	Volume Discount Rate
					t1	t2	t1	t2	t1	t2	t1	t2		
ZTQ ZTQM	6	3	7	16	1.2	2	1.6	3	1.7	4				
	8		9	18	1.1		1.4		1.5					
	10		11	22	1.8	3	2	4	1.9	5				
	12	5	14	26	1.6		1.7		2.3	6				
	16		18	32	3.3	5	3.2	6	3.5	8				
	20		21	40	2.9		2.5		3.4	9				
ZTQ ZTQM	24	8	27	52	3.3	6	3.5	8	3.7	11				

Ordering Example
Part Number - **ZTQ6** - **5**

Square Nuts

NSQ

RoHS

Diagram showing dimensions for Square Nuts (NSQ). Dimensions include B, L, T, and T-0.2.

Part Number	Type	M (Coarse)	L	B	T	Unit Price	Volume Discount Rate
NSQ	4	7	7	3.2			
	5	8	8	4			
	6	16	10	4.5			
	8	42	15.5	6			

Ordering Example
Part Number
NSQ8

For orders larger than indicated quantity, please check with WDS.

Square Nuts, Square Washers - Dim. Configurable 1-Hole

Type	M Material	S Surface Treatment
Nuts: FKT, FKWB, FKTS, FKWS	EN 1.1191 (cold drawn) Equiv.	-
Washers: FKT, FKWB, FKTS, FKWS	EN 1.1191 (cold drawn) Equiv.	Black Oxide
Nuts: FKT, FKWB, FKTS, FKWS	EN 1.4301 Equiv.	-

RoHS

Diagram showing dimensions for Square Nuts and Square Washers. Dimensions include B, A, P, T, and D.

Ordering Example
Part Number - **FKW16** - **A20** - **P10** - **D7**

Tapered Nuts

ZTN

RoHS

Diagram showing dimensions for Tapered Nuts (ZTN). Dimensions include t1, t2, t3, d, D, and M.

Part Number	Type	M (Coarse)	Angle	D	t1	t2	t3	d	Unit Price	Volume Discount Rate
ZTN	6	16	5	5.8	5	6.4	5	7.2	7	
	8	18	6.5	7.4	6.5	8.1	6.5	9	9	
	10	22	8	9.2	8	9.9	8	11.1	11	
	12	26	10	11.3	10	12.2	10	13.5	13	
	16	32	13	14.7	13	15.8	13	17.5	17	

Square Nuts, Square Washers 2-Hole

Type	M Material	S Surface Treatment
Nuts: FK2T, FK2TB, FK2TS	EN 1.1191 (cold drawn) Equiv.	-
Washers: FK2W, FK2WB, FK2WS	EN 1.1191 (cold drawn) Equiv.	Black Oxide
Nuts: FK2T, FK2TB, FK2TS	EN 1.4301 Equiv.	-

RoHS

Diagram showing dimensions for Square Nuts and Square Washers with 2 holes. Dimensions include B, A, P, M, T, and D.

Part Number	Type	B	A	P	M	T	Unit Price	Volume Discount Rate			
								1 - 4 pc(s).	5 - 9 pcs.	10 - 49 pcs.	50 - 200 pcs.
Nuts FK2TS	10	10	25	15	2	3					
			30	20	3	3					
			35	25	3	3					
			50	40	3	3					
			30	15	6	6					
	16	16	40	20	6	6					
			50	30	6	6					
			60	40	6	6					
			120	100	6	6					

Ordering Example
Part Number - **FK2TS10** - **A25** - **P15**

Part Number	Type	B	A	P	M (Coarse)	T
Nuts FK2T FK2TB FK2TS	6	30-200	2M ≤ P ≤ A-2M	3	2	
	10			3	3	
	16			6	6	
	22			8	6	
	25			10	9	
	38			12	10	

Part Number	Type	B	A	P	D Selection	T
Washers FK2W FK2WB FK2WS	6	30-200	2D ≤ P ≤ A-2D	4	2	
	10			4 6	3	
	16			7 9	6	
	22			7 9	6	
	25			7 9 11 14	6	
	38			7 9 11 14	6	

B		Unit Price			
		A30-50	A51-100	A101-150	A151-200
6	FK2TS				
10	FK2TS				
16	FK2T				
	FK2TB				
	FK2TS				
22	FK2T				
	FK2TB				
	FK2TS				
25	FK2T				
	FK2TB				
	FK2TS				
38	FK2T				
	FK2TB				
	FK2TS				

B		Unit Price			
		A30-50	A51-100	A101-150	A151-200
6	FK2WS				
10	FK2WS				
16	FK2W				
	FK2WB				
	FK2WS				
22	FK2W				
	FK2WB				
	FK2WS				
25	FK2W				
	FK2WB				
	FK2WS				
38	FK2W				
	FK2WB				
	FK2WS				

Ordering Example
Part Number - **FK2T16** - **A40** - **P25**
FK2WS25 - **A50** - **P20** - **D7**